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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,040	03/01/2002	Kyle A. Brownell	410193.90155	6764

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EXAMINER	
HOPKINS, ROBERT A	

ART UNIT	PAPER NUMBER
1724	6

DATE MAILED: 03/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/090,040	BROWNELL ET AL.	
	Examiner	Art Unit	
	Robert A Hopkins	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-35 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) 16-25 is/are allowed.

6)☒ Claim(s) 1-8,13-15 and 26-35 is/are rejected.

7)☒ Claim(s) 9-12 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,5 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 26-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 26 line 8 recites "the secondary filter media". There is a lack of antecedent basis for "the secondary filter media" in previous claim limitations. Examiner notes line 3 recites "secondary filter" but does not recite that the secondary filter includes a media. Correction is requested. Claims 27-32 depend on claim 26 and hence are also rejected.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1,2, and 13 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by More(6293983).

More teaches an air purification system for receiving incoming air containing impurities and outputting purified air into ductwork of a building, comprising a hood(10) defining a hood outlet in communication with the ductwork, a primary filter member(17) mounted to the hood for receiving the incoming air, removing at least a portion of the impurities therefrom, and outputting a primary airflow, and a secondary filter member(15) mounted to the hood at a location downstream of the primary filter for receiving the primary output airflow therefrom, the secondary filter member having a secondary filter media operable to remove impurities from the primary airflow and output a secondary airflow to the hood outlet that is cleaner than the primary airflow. More further teaches a duct collar(11) connected between the hood outlet and the ductwork to receive the secondary airflow from the secondary filter and forward the secondary airflow to the ductwork. More further teaches a fan(12) operable to draw air through the primary and secondary filter members and out the duct collar.

Claim 26 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by More(6293983).

More teaches a method of removing impurities from an airflow in an air purification system disposed upstream of a buildings ductwork, the air purification system being of the type having a primary filter and a secondary filter, the steps comprising drawing incoming air having air impurities into the primary filter, removing air particles from the incoming airflow at the primary filter to produce a primary airflow,

outputting the primary airflow to the secondary filter, removing air particles from the primary airflow at the secondary filter media to produce a secondary airflow, and outputting the secondary airflow into the ductwork.

Claims 33 and 34 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by More(6293983).

More teaches in an air purification system for removing airborne particles from an airflow prior to emitting the airflow into a buildings ductwork, the system including a hood defining a space for receiving incoming air having impurities and an outlet connected to the ductwork, and a primary filter mounted to the hood within the space, wherein the primary filter receives the incoming air and removes impurities prior to outputting once filtered air towards the outlet, the improvement comprising; a secondary filter(15) mounted within the hood and disposed within the space at a location downstream of the primary filter, the secondary filter operable to receive the once filtered air from the primary filter and further remove airborne particles to output twice filtered air towards the outlet. More further teaches wherein the primary and secondary filters are angularly mounted within the hood.

Claim 35 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by More(6293983).

More teaches a method of fabricating a two stage air purification system operable to receive incoming air having air impurities and outputting twice filtered air into the ductwork of a building , comprising providing a hood(10) defining a hood outlet that is connectable to the ductwork, wherein the hood has a first filter(17) mounted thereto to

receive the incoming air and output once filtered air toward the outlet, and mounting a second filter(15) to the hood at a location downstream of the first filter to receive the once filtered air and output the twice filtered air toward the hood outlet.

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,5,6,8,13, and 15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Diachuk(4350504).

Diachuk teaches an air purification system for receiving incoming air containing impurities and outputting purified air into ductwork of a building, comprising a hood(29) defining a hood outlet in communication with the ductwork, a primary filter member(37) mounted to the hood for receiving the incoming air, removing at least a portion of the impurities therefrom, and outputting a primary airflow, and a secondary filter member(108) mounted to the hood at a location downstream of the primary filter for receiving the primary output airflow therefrom, the secondary filter member having a secondary filter media operable to remove impurities from the primary airflow and output a secondary airflow to the hood outlet that is cleaner than the primary airflow. Diachuk further teaches wherein the secondary air filter includes inner and outer porous walls(see figure 7) defining a bed therebetween packed with a filter media operable to trap therein the impurities removed from the primary airflow. Diachuk further teaches wherein the filter media is porous. Diachuk further teaches wherein the secondary filter is operable to collect grease particles and VOC's(column 5 lines 15-25). Diachuk further teaches a fan(12) operable to draw air through the primary and secondary filter

members and out the duct collar. Diachuk further teaches wherein the secondary filter member comprises at least one chamber having a front face for receiving incoming air, wherein the chamber is defined by porous walls that are packed with a filter media, and wherein the porous walls extend outwardly from the front face(see figure 7).

Claims 26 and 28 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Diachuk(4350504).

Diachuk teaches a method of removing impurities from an airflow in an air purification system disposed upstream of a buildings ductwork, the air purification system being of the type having a primary filter(37) and a secondary filter(108), the steps comprising drawing incoming air having air impurities into the primary filter, removing air particles from the incoming airflow at the primary filter to produce a primary airflow, outputting the primary airflow to the secondary filter, removing air particles from the primary airflow at the secondary filter media to produce a secondary airflow, and outputting the secondary airflow into the ductwork. Diachuk further teaches a step of directing the primary airflow into a packed bed of filter media. Diachuk further teaches wherein the filter media comprises a plurality of porous beads, wherein the step of removing air particles from the primary airflow at the secondary filter media to produce a secondary airflow further comprises the step of absorbing impurities from the primary airflow into the beads.

Claims 33 and 34 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Diachuk(4350504).

Diachuk teaches in an air purification system for removing airborne particles from an airflow prior to emitting the airflow into a buildings ductwork, the system including a hood defining a space for receiving incoming air having impurities and an outlet connected to the ductwork, and a primary filter(37) mounted to the hood within the space, wherein the primary filter receives the incoming air and removes impurities prior to outputting once filtered air towards the outlet, the improvement comprising; a secondary filter(101) mounted within the hood and disposed within the space at a location downstream of the primary filter, the secondary filter operable to receive the once filtered air from the primary filter and further remove airborne particles to output twice filtered air towards the outlet. Diachuk further teaches wherein the primary and secondary filters are angularly mounted within the hood.

Claim 35 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Diachuk(4350504).

Diachuk teaches a method of fabricating a two stage air purification system operable to receive incoming air having air impurities and outputting twice filtered air into the ductwork of a building , comprising providing a hood(29) defining a hood outlet that is connectable to the ductwork, wherein the hood has a first filter(37) mounted thereto to receive the incoming air and output once filtered air toward the outlet, and mounting a second filter(101) to the hood at a location downstream of the first filter to receive the once filtered air and output the twice filtered air toward the hood outlet.

Claims 1,2, and 13 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Rohrer(3955949).

Rohrer teaches an air purification system for receiving incoming air containing impurities and outputting purified air into ductwork of a building, comprising a hood(12) defining a hood outlet in communication with the ductwork, a primary filter member(10) mounted to the hood for receiving the incoming air, removing at least a portion of the impurities therefrom, and outputting a primary airflow, and a secondary filter member(16) mounted to the hood at a location downstream of the primary filter for receiving the primary output airflow therefrom, the secondary filter member having a secondary filter media operable to remove impurities from the primary airflow and output a secondary airflow to the hood outlet that is cleaner than the primary airflow. Rohrer further teaches a duct collar connected between the hood outlet and the ductwork to receive the secondary airflow from the secondary filter and forward the secondary airflow to the ductwork. Rohrer further teaches a fan(not shown) operable to draw air through the primary and secondary filter members and out the duct collar.

Claim 26 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Rohrer(3955949).

Rohrer teaches a method of removing impurities from an airflow in an air purification system disposed upstream of a buildings ductwork, the air purification system being of the type having a primary filter and a secondary filter, the steps comprising drawing incoming air having air impurities into the primary filter, removing air particles from the incoming airflow at the primary filter to produce a primary airflow, outputting the primary airflow to the secondary filter, removing air particles from the

primary airflow at the secondary filter media to produce a secondary airflow, and outputting the secondary airflow into the ductwork.

Claims 33 and 34 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Rohrer(3955949).

Rohrer teaches in an air purification system for removing airborne particles from an airflow prior to emitting the airflow into a buildings ductwork, the system including a hood defining a space for receiving incoming air having impurities and an outlet connected to the ductwork, and a primary filter(10) mounted to the hood within the space, wherein the primary filter receives the incoming air and removes impurities prior to outputting once filtered air towards the outlet, the improvement comprising; a secondary filter(16) mounted within the hood and disposed within the space at a location downstream of the primary filter, the secondary filter operable to receive the once filtered air from the primary filter and further remove airborne particles to output twice filtered air towards the outlet. Rohrer further teaches wherein the primary and secondary filters are angularly mounted within the hood.

Claim 35 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Rohrer(3955949).

Rohrer teaches a method of fabricating a two stage air purification system operable to receive incoming air having air impurities and outputting twice filtered air into the ductwork of a building , comprising providing a hood(12) defining a hood outlet that is connectable to the ductwork, wherein the hood has a first filter(10) mounted thereto to receive the incoming air and output once filtered air toward the outlet, and

mounting a second filter(16) to the hood at a location downstream of the first filter to receive the once filtered air and output the twice filtered air toward the hood outlet.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3,4,14, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Rohrer(3955949) or Diachuk(4350504) taken together with Neitzel et al(6251153).

Both Rohrer and Diachuk disclose all of the limitations of claims 3 and 27 but is silent as to wherein the primary air filter operates using centrifugal filtration principles. Neitzel et al discloses an air purification system having a hood with a hood outlet in communication with ductwork, and a filter member mounted to the hood for receiving incoming air, wherein the filter operates using centrifugal filtration principles. It would have been obvious to someone of ordinary skill in the art at the time of the invention to substitute a filter which operates using centrifugal filtration principles for the baffle primary filter of Rohrer or Diachuk in order to increase the separation efficiency of an initial filtration step over an impaction type filter. Neitzel et al further discloses a collector disposed at one end of the primary filter operable to receive impurities removed from the incoming air. Neitzel et al further discloses wherein the primary filter member comprises an elongated air filter chamber having a closed front, rear and

closed opposing ends, a pair of inlets formed in the air filter chamber front, each inlet of the pair of inlets being located adjacent one of the air filter chamber ends, and an outlet formed in the chamber rear and located substantially midway between the opposing ends, wherein air enters the air filter chamber through the inlets and flows longitudinally toward the outlet through the air filter chamber in a helical path, wherein the helical path causes impurities in the air to impinge upon walls of the air filter chamber prior to air exiting the air filter chamber through the outlet.

Claims 7 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diachuk(4350504) taken together with Frazier(4604110).

Diachuk discloses all of the limitations of claims 7 and 30 but is silent as to wherein the porous media comprises a silica gel. Frazier discloses a filter element for removing odors from an airflow including a filter medium including a silica gel porous media(column 2 lines 24-30). It would have been obvious to someone of ordinary skill in the art at the time of the invention to substitute a silica gel for the charcoal bed(112) of Diachuk to provide for a porous media that removes odors, wherein the silica gel is used depending on the type of odor removal required.

Allowable Subject Matter

Claims 9-12,31,32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 9 recites "wherein the filter media is nonporous and defines gaps therebetween that are sized to store the additional impurities therein". Diachuk

discloses a filter media having a porous surface. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a filter media which is nonporous and defines gaps therebetween that are sized to store the additional impurities therein because Diachuk does not suggest such a modification. Claims 10 and 11 depend on claim 9 and hence would also be allowable upon incorporation of claims 9 and 5 into claim 1.

Claim 12 recites "further comprising a removable outer wall that encloses the bed". Diachuk fails to disclose a removable outer wall that encloses the filter bed. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a removable outer wall that encloses the filter bed because Diachuk does not suggest such a modification.

Claim 31 recites "wherein the filter media comprises a plurality of nonporous beads defining air gaps therebetween, and wherein step D further comprises the step of absorbing impurities from the primary airflow into the air gaps". Diachuk discloses a filter media having a porous surface. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a filter media which is nonporous and defines gaps therebetween that are sized to store the additional impurities therein because Diachuk does not suggest such a modification. Claim 32 depends on claim 31 and hence would also be allowable upon incorporation of claims 31 and 28 into claim 26.

Claims 16-25 are allowed.

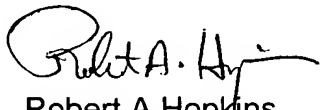
The following is a statement of reasons for the indication of allowable subject matter:

Claim 16 recites a top wall, a pair of side walls extending inwardly from outer ends of the top wall at one end and having distal ends at an opposite end, ... , wherein the side walls extend substantially perpendicularly outwardly from the front face. Muller et al(5733350), Keller(3354623), and Diachuk(4350504) disclose air filter chambers having side walls defined by inner and outer porous members enclosing a filter media therein, however none of the references disclose wherein the side walls extend substantially perpendicularly outwardly from the front face. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a filter media wherein the side walls extend substantially perpendicularly outwardly from the front face because neither Muller et al(5733350) nor Keller(3354623) nor Diachuk(4350504) suggest such a modification. Claims 17-25 depend on claim 16 and hence are also allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A Hopkins whose telephone number is 703-308-3913. The examiner can normally be reached on Monday-Friday 9:00am-3:00pm, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 703-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9572 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Robert A Hopkins
Primary Examiner
Art Unit 1724

rah
March 18, 2003